IN THE CLAIMS

Cancel claims 1 through 15 without prejudice and substitute the following therefor:

--16. A method of pre-treating, prior to bleaching, cellulose pulp, to improve bleachability of the pulp, using an acid tower, and a tower in a second treatment stage, comprising the steps of substantially sequentially:

(a) if necessary, adjusting the pH of the pulp to between 2-6 by adding aminic acid, sulfuric acid, hydrochloric acid, or another acid which does not contain oxidizing perhydroxyl ions;

(b) feeding the pulp to the acid tower;

(c) treating the pulp in the acid tower at substantially the pH, between 2-6, to which it has been adjusted in step (a), at a pressure of 0-20 bar, at a temperature of 75-130°C, and for 20-240 minutes, so as to decrease the kappa number by 1-9 units;

(d) transferring the pulp from the acid tower to the tower of the second treatment stage,

(e) in the second treatment stage tower treating the pulp with a complexing agent at a pH of between 4-8, or with an oxidizing chemical;

(f) washing, pressing, or both washing and pressing the pulp; and

(g) bleaching the pulp.

17. A method as recited in claim 16 wherein step (c) is practiced at a pH between about 3-4, ~~at a pressure of 1-10 bar,~~ at a temperature of 80-110°C; and so ~~as to decrease~~ that acid treatment decreases the kappa number of the pulp by at least 2 units.

18. A method as recited in claim 17 wherein step (e) is practiced using a complexing agent, and at a pH of between about 5-6.

19. A method as recited in claim 17 wherein step (e) is practiced using as an oxidizing chemical chlorine dioxide, Caro's acid, peracids, or combinations thereof.

20. A method as recited in claim 16 wherein step (g) is practiced by using hydrogen peroxide.

21. A method as recited in claim 20 wherein step (g) is practiced by treating with hydrogen peroxide alone in a stage, or by adding hydrogen peroxide to an alkaline stage.

22. A method as recited in claim 18 wherein prior to step (e), between steps (c) and (e), adding acid to alkali to the pulp to adjust the pH thereof.

23. A method as recited in claim 16 comprising the further step, prior to or in conjunction with step (a) or step (e), adding at least one of magnesium, calcium, enzymes, and chlorine dioxide to the pulp.

24. A method as recited in claim 16 wherein step (f) is practiced by washing the pulp in a fractionating washer so that a first filtrate containing heavy metals is removed from the process, and a second, cleaner, filtrate is recycled for use in another stage of the method.

25. A method as recited in claim 20 wherein step (g) is practiced using two towers which are different in size and connected to each other, the first tower acting as a pretreatment reactor and the second tower as a bleach tower.

26. A method as recited in claim 25 wherein step (g) is further practiced by: mixing peroxide with the pulp; feeding the pulp into the pretreatment reactor and treating the pulp in the pretreatment reactor at a pressure of 3-20 bar and for a reaction time of 10-60 minutes, so that the peroxide reacts with the pulp; separating gas from

the pulp; using the pressure in the pretreatment reactor, blowing the pulp to a lower section of the bleach tower so that the pulp flows upwardly in the bleach tower; and removing the pulp from the top of the bleach tower after the pulp reacts with the peroxide in the bleach tower.

27. A method as recited in claim 26 wherein the mixing step is practiced by adding 5-20 kg/adt peroxide, and 0-10 kg/adt oxygen to the pulp.

28. A method as recited in claim 26 wherein step (g) is further practiced by using a peroxide dosage that is from about 5 to just below 10 kg/adt, and using an oxygen dosage of between 5-15 kg/adt.

29. A method as recited in claim 26 wherein during treatment of the pulp in the bleach tower the pressure is between 1.1-5 bar, and the temperature 80-130°C.

30. A method as recited in claim ~~20~~ 16 wherein step (g) is practiced in two stages using peroxide, the first stage in sequence using a peroxide dosage of between 5 to just below 10 kg/adt and with about 5-15 kg/adt oxygen, and the second peroxide stage in sequence having a dosage of 10-20 kg/adt peroxide and an oxygen dosage of 0-10 kg/adt.

31. A method as recited in claim 20 wherein step (g) is practiced by adding 5-20 kg/adt peroxide and 0-10 kg/adt oxygen.

32. A method as recited in claim ~~20~~ 16 wherein step (g) is practiced by adding between 5-just below 10 kg/adt peroxide and 5-15 kg/adt oxygen.